

- First Review
[Signature]
JAN 26 1957

MEMORANDUM FOR: Chief, Economic Research
Chief, Services Division
Chief, Materials Division
Chief, Industrial Division

FROM: Chief, Analysis Division

SUBJECT: Additional Contributions for the Soviet NIE.

I. Introduction.

1. In a recent draft DM and in a draft IP for the Soviet NIE, we have stated certain hypotheses which are the basis of revisions of estimates on the Soviet Economy as compared to last year.

2. These hypotheses are speculative. It is extremely important to bring what evidence we can to bear on these in time for the deadline to ONE (15 August, i.e., internal contributions about 19 July). The question is how much time can or should be programmed to test the hypotheses and change in estimates over the next 3 weeks.

3. The following is an attempt to spell out and clarify the substantive problems to facilitate programming considerations.

II. Background.

1. Last year and in preceding years our forecasts for the Soviet Union are based on the explicit or implicit assumption that the Soviet determination to maximize growth was fixed and unshakable, and hence the priority to heavy industry was equally firm. This simplified forecasting somewhat. We could examine Soviet commodity and aggregate goals in terms of "physically" defined capabilities. We could assume that if more investment than planned were needed for a particular key industry the funds would be forthcoming. We also assumed that if heavy industry as a whole needed more materials or investment these would be reallocated from light industry, non-industrial sectors or from consumption.

2. Events of the last year, and especially decisions of the Soviet leadership, suggest that Soviet priorities are changing and that the assumptions above may no longer be valid. Thus coincident

SUBJECT: Additional Contributions for the Soviet NIE.

with the reduction of industrial goals for 1957 the Soviets reduced total investment, increased housing construction funds, and probably agricultural investment. This is not the way Stalin would have reacted to a threatened shortfall in heavy industry.

3. The implication for forecasting is that we can no longer think in terms of physically defined capabilities. We should ask instead what an industry can accomplish with a fixed level of investment. Or is the investment required to expand a given industry by $x\%$ greater than planned, or greater than the preceding period?

III. Research Possibilities.

1. As implied above, it would be lovely if we had the capital-output ratios by industry that would be applicable for the period 1955-1960. Knowing the total investment planned and with a notion about its allocation to industries we could do some fancy forecasting. Failing this various left handed approaches may still be helpful.

2. In the draft IM referred to above we theorized that the performance of Soviet industry during 1951-1955 was achieved by borrowing from the future, that is, output was increased partly by certain non-recurring gains. Thus, the theory alleges, Soviet industrial capacity did not grow as fast as actual output and consequently a much greater rate of investment than in the past would be required to maintain an industrial growth of 11% in the future. The evidence for this is the report of general underfulfillment of planned completion of new capacity. This evidence by itself, however, is not conclusive since the plan may have aimed at a greater increase of capacity than of output. Given the well known difficulty of measuring capacity in most industries and sectors, support (or refutation) of the theory would have to be a demonstration of the specific ways in which output was increased 1951-1955 industry by industry.

3. Aside from construction of new plant, output can be increased by increasing inputs of labor, materials, and equipment within existing plant. Secondly, it can be increased by improving technology. The first method is limited eventually by diminishing returns (except as equipment of new design is installed, which is really the second method). The second method is limited or not depending on the availability or discovery of new technology. Some examples may clarify this a little.

SUBJECT: Additional Contributions for the Soviet NIE.

4. In the coal mining industry there is strong evidence that much of the gain in output resulted from increasing the intensity of use of existing mines. This evidence was presented in the speech of Zademidko the minister of the coal industry, at the XIXth Party Congress. He cites the planned use of capacity -- 84% in 1950, 96% in 1955, 97.5% in 1960. Is his argument conclusive? What is the Soviet definition of coal mining capacity?

5. The minister of ferrous metals, Sheremet'sev made a similar argument for the steel industry, concluding that any underfulfillment of the construction program for 1956-1960 [as happened in 1951-1955] would prevent fulfillment of the planned output increase. Was he right? To what extent did the gain in output in the 5th plan result from oxygenation? Are there other relatively cheap technological gains to be had in the steel industry?

6. How about other industries? Railroads, electric power, cement? Was there generally reserve capacity at the beginning of the 5th plan which is now used up? Or was capacity jacked up by additions of equipment (in existing plant) in ways which can't be repeated in the future? Do we have evidence of increasing number of shifts worked in any industries? In the machinery industries was there a concentration on a limited number of designs and hence economies of scale which can't be repeated? A very large percentage of capital stock was installed in the postwar period. Hence, replacement requirements have been small but should rise to a higher percent of stock as the postwar lump of investment ages. Is there any direct evidence that this has started to happen.

7. In the mining industry two kinds of problems can be identified. First, depletion of developed deposits may have gone on faster than the development and opening of new deposits -- i.e., investment may have been postponed. But apart from that the new reserves may be more expensive to develop than the old ones. For example, development in the East should be more expensive, at least temporarily, because of the new auxiliary investment required, transport, municipal services, etc. In addition development costs may be higher for other reasons -- e.g., quality of ore, water availability, etc. - or lower - e. g., open pit mining.

8. The kind of evidence outlined above is, I think, critical for deciding the extent to which the USSR's troubles in 1957 result from fundamental difficulties coming home to roost rather than simply a temporary imbalance.

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